

FOCAL SPOT POSITION ADJUSTMENT SYSTEM FOR AN IMAGING TUBE

Abstract

A cathode (38) for an imaging tube (33) is provided. The cathode (38) includes an emitter (74) that emits an electron beam (98) to a focal spot (46) on an anode (44). A backing member (76) is electrically disposed on a second side (78) of the emitter (74) and contributes in formation of the electron beam (98). A deflection electrode (82) is electrically disposed between the backing member (76) and the anode (44) and adjusts position of the focal spot (46) on the anode (44). A non-contact x-ray source component position measuring system (32) is also provided. The position measuring system (32) includes an electromagnetic source (18) having an electromagnetic radiation source component (42) and a probe (50) that directs an emission signal (52) at and receives a return signal from the electromagnetic radiation source component (42). A controller (28) generates the emission signal (52) and determines position of the electromagnetic radiation source component (42) in response to the return signal (54). An electron beam focal spot position adjusting system (12) is also provided.